

Amendments of the Claims

This listing of claims will replace all prior versions and listings of claims in the above-identified patent application:

Listing of Claims

1. (currently amended): A device for filtering blood flowing through the ostium of an atrial appendage, said device comprising:

5 a membrane tube having a first closed end and a second closed end wherein said first closed end comprises a blood-permeable filter; and

an expandable structure disposed in said tube, said structure having a collapsed configuration and an expanded configuration;

10 wherein:

said device is insertable in said appendage while said expandable structure is in said collapsed configuration, and wherein when said expandable structure is in said expanded configuration said first closed end covers the  
15 ostium of said atrial appendage and portions of said membrane tube are pressed ~~outwards~~ outwardly against the interior walls of said atrial appendage anchoring said device therein.

2. (original): The device of claim 1 wherein said membrane tube has a substantially cylindrical shape.

3. (canceled)

4. (previously presented): The device of claim 1 wherein said second closed end comprises a blood-permeable filter.

5. (original): The device of claim 1 wherein said expandable structure is self-expanding.

6. (original): The device of claim 1 wherein said expandable structure expands from said collapsed configuration to said expanded configuration by means of an inflatable balloon.

7. (original): The device of claim 6 wherein said first closed end further comprises a self-sealing opening for withdrawing said inflatable balloon.

8. (original): The device of claim 7 wherein said self-sealing opening comprises an elastic ring.

9. (original): The device of claim 7 wherein said self-sealing opening comprises overlapping membrane flaps.

10. (original): The device of claim 1 wherein said membrane tube comprises elastomeric material.

11. (original): The device of claim 1 wherein said membrane tube comprises braided material.

12. (original): The device of claim 1 wherein said membrane tube comprises woven material.

13. (withdrawn): A method for filtering blood flowing through the ostium of an atrial appendage, comprising:

providing a device comprising a membrane tube  
5 having at least a first closed end wherein said first closed end comprises a blood-permeable filter;  
inserting said device in said appendage;

positioning said closed end to cover said  
ostium; and

10                   anchoring said device in said atrial  
appendage.

14. (withdrawn): The method of claim 13 wherein  
said anchoring comprises pressing sides of said tube outward  
against the interior walls of said atrial appendage.

15. (withdrawn): The method of claim 13 wherein  
said providing a device further comprises disposing an  
expandable structure in said membrane tube, wherein said  
inserting further comprises placing said device in said  
5   atrial appendage while said expandable structure is in a  
collapsed configuration, and wherein said positioning and  
said anchoring comprise expanding said expandable structure  
to an expanded configuration.

16. (withdrawn): The method of claim 15 wherein  
said expanding comprises using an inflatable balloon.

17. (withdrawn): The method of claim 16 further  
comprising deflating and withdrawing said balloon from said  
atrial appendage after said device is anchored in said atrial  
appendage.

18. (previously presented): A device for filtering  
blood flowing through the ostium of an atrial appendage, said  
device comprising:

                  a cover comprising:

5                   a filter element having a predetermined  
size; and

an elastic membrane attached to said  
filter element; and

an expandable structure for deploying  
10 said cover;  
wherein:

said filter element is disposed on said  
membrane; and

said elastic membrane stretches as said cover  
15 is deployed and allows said predetermined size to remain  
substantially unchanged.

19. (original): The device of claim 18 wherein  
said filter element comprises holes substantially impervious  
to harmful-size emboli.

20. (previously presented): The filter element of  
claim 18 wherein said filter element is made of material  
which is less elastic than said expandable membrane.

21. (withdrawn): A method for filtering blood  
flowing through the ostium of an atrial appendage,  
comprising:

providing a cover comprising an expandable  
5 membrane attached to a filter element having a predetermined  
size;

providing an expandable structure to deploy  
said cover across said ostium; and

positioning said cover across said ostium  
10 using said expandable structure,

wherein said positioning comprises stretching  
said expandable membrane such that said predetermined size is  
substantially unchanged.

22. (withdrawn): A device for filtering blood flowing through the ostium of an atrial appendage, comprising:

an expandable structure for covering said  
5 ostium; and

anchors disposed on the outer periphery of said expandable, wherein expandable structure has an axial length less than about the combined lengths of said ostium and a neck region of said atrial appendage leading to said  
10 ostium, wherein said expandable structure comprises a blood-permeable filter, and wherein said anchors engage surrounding ostium wall tissue.

23. (withdrawn): The device of claim 22 wherein said expandable structure is self-expanding.

24. (withdrawn): The device of claim 22 wherein said expandable structure expands in response to externally-initiated means.

25. (withdrawn): The device of claim 24 wherein said externally-initiated means comprises an inflatable balloon.

26. (withdrawn): The device of claim 22 wherein said blood-permeable filter comprises holes that are substantially impervious to harmful-size emboli.

27. (withdrawn): A method for filtering blood flowing through the ostium of an atrial appendage, comprising:

providing an expandable structure comprising a  
5 blood-permeable filter, said expandable structure having an  
axial length less than about the length of an ostium;  
providing anchors attached to said expandable  
structure;  
disposing said expandable structure within  
10 said ostium;  
positioning said expandable structure to cover  
said ostium; and  
expanding said expandable structure so that  
said anchors engage surrounding ostium wall tissue.

28. (withdrawn): The method of claim 27 wherein  
said providing an expandable structure comprises providing a  
self-expanding structure.

29. (withdrawn): The method of claim 27 wherein  
said providing an expandable structure further comprises  
providing externally-initiated means to expand said  
expandable structure, and wherein said expanding comprises  
5 initiating said means.

30. (withdrawn): The method of claim 29 wherein  
said providing externally-initiated means comprises providing  
an inflatable balloon, and wherein said initiating comprises  
inflating said inflatable balloon.

31. (withdrawn): The method of claim 30 further  
comprising deflating and withdrawing said inflatable balloon  
after said anchors engage surrounding ostium wall tissue.

32. (withdrawn): The method of claim 27 wherein  
said positioning said expandable structure to cover said

ostium comprises positioning said expandable structure to  
direct substantially all blood flow through said ostium to  
5 pass through said filter.

33. (withdrawn): A device for filtering blood  
flowing through the ostium of an atrial appendage,  
comprising:

a first structure comprising a blood-permeable  
5 filter element; and

a second structure attached to said first  
structure, said rear structure comprising at least one  
inflatable anchor set,

wherein said first structure is deployed  
10 across said ostium, and wherein said inflatable anchor set  
when inflated engages interior wall tissue of said atrial  
appendage to secure said device in its deployed position.

34. (withdrawn): The device of claim 33 wherein  
said second structure comprises an axial portion, wherein  
said at least one inflatable anchor set comprises anchors  
attached to said axial portion along a radial circumference  
5 thereof.

35. (withdrawn): The device of claim 33 wherein  
said second structure comprises an axial portion, wherein  
said at least one inflatable anchor set comprises anchors  
attached to said axial portion along an axial length thereof.

36. (withdrawn): The device of claim 33 wherein  
said first structure comprises an inflatable structure.

37. (withdrawn): The device of claim 33 wherein said filter element comprises holes substantially impervious to harmful-size emboli.

38. (withdrawn): A method for filtering blood flowing through the ostium of an atrial appendage, comprising:

providing a device comprising:

5                   a first structure comprising a blood-permeable filter element; and  
                  a second structure attached to said first structure, said second structure comprising at least one inflatable  
10                   anchor set;  
                  positioning said first structure to cover said ostium;  
                  disposing said second structure interior to said atrial appendage; and  
15                   inflating said anchor set expanding so that said anchors engage surrounding atrial appendage wall tissue.

39. (withdrawn): The method of claim 38 wherein providing an implant device further comprises providing said first structure comprising an inflatable structure.

40. (withdrawn): A device for filtering blood flowing through the ostium of an atrial appendage, comprising:

an expandable structure comprising:

5                   a first portion having a blood-permeable filter element; and



a second portion having a cylindrical shape; and

anchors disposed on at least part of the exterior surface of said second portion,

wherein when said device is deployed in about the vicinity of said ostium by expanding said expandable structure said first portion covers said ostium to direct said blood flow through said filter element and said anchors engage surrounding wall tissue.

41. (withdrawn): The device of claim 40 wherein said filter element comprises holes substantially impervious to filter harmful-size emboli.

42. (withdrawn): The device of claim 40 wherein said second portion further comprises a substantially constant diameter cylindrical structure.

43. (withdrawn): The device of claim 40 wherein said second portion further comprises a flared-diameter cylindrical structure.

44. (withdrawn): The device of claim 40 wherein said expandable structure is self-expanding.

45. (withdrawn): The device of claim 40 wherein said expandable structure is balloon-expandable.

46. (withdrawn): The device of claim 40 wherein said expandable structure has elastic deformation properties causing said expandable structure to recoil in size from its expanded size.

47. (withdrawn): The device of claim 46 wherein said recoil in size causes said anchors that have engaged surrounding wall tissue to pull back and draw said walls closer to said device.

48. (withdrawn): A method for filtering blood flow through the ostium of an atrial appendage, comprising:

providing a device comprising:

an expandable structure, said expandable  
5 structure comprising:

a first portion having a blood-  
permeable filter element; and

a second portion having a  
cylindrical shape; and

10 anchors disposed on at least part of  
the exterior surface of said second  
portion; and

deploying said device in about the vicinity of  
said ostium wherein said deploying comprises:

15 positioning said first portion to cover said  
ostium; and

expanding said expandable structure so that  
said anchors engage surrounding wall tissue.

49. (withdrawn): The method of claim 48 wherein  
said providing a device further comprises providing said  
expandable structure which recoils in size from its expanded  
size, and wherein said expanding further comprises expanding  
5 and recoiling said expandable structure so that said anchors  
engage surrounding wall tissue and pull back drawing said  
walls toward said device.